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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,053	03/30/2001	Milind M. Buddhikot	554-251(Buddhikot 2-1-4-2	8989
26291	7590	07/15/2004	EXAMINER	
MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			SIDDIQI, MOHAMMAD A	
			ART UNIT	PAPER NUMBER
			2154	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/823,053	BUDDHIKOT ET AL.	
	Examiner	Art Unit	
	Mohammad A Siddiqi	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are presented for examination. Claims 15-18 have been withdrawn for further consideration.

Election/Restrictions

2. Restriction to one of the following invention is required under 35 U.S.C. 121:

- I. Claims 1-14 and 19-21 drawn to Computer-to-computer data streaming, classified in class 709, subclass 231.
- II. Claims 15-17 drawn to sorting stored segments, classified in class 707, subclass 7.
- III. Claim 18 drawn to global hotness rating, classified in class 705, subclass 14.

3. Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct

from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as lacking to sorting stored segments, global hotness rating and particulars. Invention II has separate utility such as lacking global hotness rating and particulars. See MPEP § 806.05(d).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for one group is not required for another group, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Steve Hertzberg on 07/08/04 a provisional election was made with traverse to prosecute the invention of I, claims 1-14 and 19-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1-7, 9-14, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolf et al. (6,463,508) (hereinafter Wolf).

10. As per claims 1 and 12, Wolf discloses In a network, a method for segmenting a streaming multimedia clip into a plurality of sequentially organized data segments of exponentially increasing size and distributing said streaming multimedia clip from an origin server to a plurality of streaming caches which comprise a distribution set in said network (abstract, col 2, lines 26-47), the method comprising the steps of:

determining a size (L) of the multimedia clip (fig 3, col 4, lines 1-15);

segmenting the streaming multimedia clip into a plurality of data segments of exponentially increasing size (fig 10, col 1, lines 7-11, col 4, lines 1-15, col 8, lines 27-39); and

distributing the plurality of data segments from the origin server to said plurality of streaming caches, wherein an i-th data segment is distributed in an i-th distribution round to each of said plurality of streaming caches (fig 1, 3, 10, col 3, lines 1-67, col 4, lines 1-14).

11. As per claim 2, Wolf discloses wherein the size of an i-th data segment is computed as $L/2^{\sup. (N+1-i)}$ where N is the total number of segments, and where i is an index defining each of the N segments, (i=1,2, . . . , N) (fig 10, col 8, lines 27-39).

12. As per claim 3, Wolf discloses wherein the size L of the multimedia clip is measured in units of time (col 2, lines 26-37, col 4, lines 1-14).

13. As per claim 4, Wolf discloses wherein the segmenting step further comprises the steps of: determining in an m-th distribution round if a data segment of said multimedia clip is equal to or greater than a predetermined threshold value (col 7, lines 5-10), said m-th data segment referred to as a threshold data segment (fig 10, col 1, lines 7-11, col 8, lines 20-48); and dividing a remaining undivided portion of said multimedia clip into data segments having a predetermined segment size if the data segment of said multimedia clip is equal to or greater than a predetermined threshold value (fig 10, col 1, lines 7-11, col 8, lines 26-37).

14. As per claim 5, Wolf discloses wherein said remaining undivided portion is divided into data segments in successive rounds having an index m+1 through N (fig 10, col 7, lines 43-67, col 8, lines 1-39).

15. As per claim 6, Wolf discloses wherein the predetermined segment size is equal to the size of the threshold data segment (fig 10, col 1, lines 7-11, col 8, lines 20-48, col 7, lines 5-10).

16. As per claim 7, Wolf discloses wherein the predetermined segment size is computed as: $2^{\sup.(r-1)} \cdot \text{delta}$, where $\text{delta} = L/2^{\sup.(N-1)}$ the size of a first segment; and where r is a user adjustable parameter to determine the segment size for those fixed segment which occur once the predetermined threshold has been reached (delta = initial segment size, col 4, lines 1-26, col 8, lines 10-48).

17. As per claim 9, Wolf discloses wherein the values for delta , r and m are determined by an origin server aware scheme (col 4, lines 1-26).

18. As per claim 10, Wolf discloses wherein the values for delta , r and m are determined by inter-cache communications in an origin server transparent scheme (col 4, lines 1-26)..

19. As per claim 11, Wolf discloses wherein the distributing step further comprises the step of: at each of said plurality of streaming caches, storing an i -th data segment of said streaming multimedia clip with probability equal to $1/2^{\sup.(i-1)}$ in an i -th distribution round, where $i=1, 2, \dots, N$ (col 4, lines 1-67, col 7, lines 1-67).

20. As per claim 13, Wolf discloses a method of distributing a segmented streaming multimedia clip among a plurality of streaming caches, comprising the steps of: at each of said streaming caches: storing an i-th data segment of the segmented streaming multimedia clip with probability equal to $1/2^{\sup(i-1)}$ (fig 10, col 4, lines 1-14,col 8, lines 10-39).

21. As per claim 14, Wolf discloses further comprising the step of: storing an i-th data segment of said segmented streaming multimedia clip with probability equal to $\text{brkt-top} \cdot 1/2^{\sup(i-1)} \cdot \text{brkt-top} \cdot e(x)$, where $e(x)$ is a constant that is proportional to a popularity rating of the clip, where $0 \leq e(x) \leq 1$ (least value have highest popularity rating, fig 9, col 7, lines 43-67, col 8, lines 1-39) .

22. As per claim 19, Wolf discloses a system for segmenting, distributing and replacing segments of streaming multimedia clips in a network, comprising: at least one origin server storing said streaming multimedia clips (fig 1, col 3, lines 18-40);

a plurality of streaming caches in communication with said at least one origin server said plurality of streaming caches defining a distribution set (see abstract, col 8, lines 10-48);

first processing means associated with said at least one origin server for segmenting the streaming multimedia clip into a plurality of data segments of exponentially increasing size and for distributing said plurality of data segments to each of said plurality of streaming caches (col 4, lines 1-26); and

second processing means associated with each of said plurality of streaming caches for storing data segments received from said at least one origin server in a SC and for replacing said stored data segments from said SC (abstract, col 7, lines 1-67).

23. As per claim 20, Wolf discloses wherein said second processing means further comprises means for computing a potential function for each stored data segment for replacing segments (col 7, lines 5-20).

24. As per claim 21, Wolf discloses wherein said second processing means further comprises means for computing a probability to determine whether to store or discard each data segment received from said at least one origin server (col 7, lines 1-67).

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al. (6,463,508) (hereinafter Wolf) in view of Eberman et al. (6,173,287) (hereinafter Eberman).

27. As per claim 8, Wolf is silent about wherein delta is on the order of 5 to 30 seconds.

However, Eberman discloses delta is on the order of 5 to 30 seconds (col 21, line 66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wolf with Eberman because it would provide efficient segment caching and will provide technique to pre-fetch request to obtain the remaining blocks for segments which are not currently cached.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 6,385,693

U.S. Patent 6,700,933

U.S. Patent 6,496,980

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad A Siddiqi whose telephone number is (703) 305-0353. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAS


ZARNI MAUNG
PRIMARY EXAMINER